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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/015,414      | 12/12/2001  | Tso-Hung Fan         | JCLA7737            | 4054             |

7590 12/04/2002  
J.C. Patents, Inc.  
4 Venture, Suite 250  
Irvine, CA 92618

EXAMINER

PHAM, LY D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2818

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Appli ation No.

10/015,414

Applicant(s)

FAN ET AL.

Examiner

Ly D Pham

Art Unit

2818

-- The MAILING DATE of this communication app ars on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-7 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. This office acknowledges receipt of the following items from the applicant:  
Papers submitted under 35 U.S.C. 119(a)-(d) have been placed of record in the file.

#### *Election/Restrictions*

2. In response to the Office's restriction requirement, the examiner acknowledges the applicants' election/amendment A, entered in Office paper No. 4, dated October 1, 2002, in which claims 5 – 8 are elected and claims 1 – 4 are cancelled.
3. Claims 5 – 8 are presented for the examination.

#### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trudel et al. (US Pat. 4,353,083).

Regarding **claim 5**, Trudel et al. disclose a method of erasing a non-volatile memory with a nitride tunneling layer (fig. 2, 19), the non-volatile memory having a substrate (fig. 2, 27/28), a nitride tunneling layer on the substrate (fig. 2), a charge-trapping layer on the nitride tunneling layer (col. 1, lines 60 – 63), a dielectric layer on the charge-trapping layer (fig. 2, 18), a gate

Art Unit: 2818

conductive layer on the dielectric layer (fig. 1, 27), and a source region and a drain region in the substrate beside the gate conductive layer (fig. 1, 12 13). and the method comprising the steps of:

applying a positive bias (col. 2, lines 33 – 35, 18 V) to the gate and source,

grounding the drain and substrate to erase the transistor.

Although the slight difference between the invention is the fact that upon erasing the non-volatile memory cell, the Trudel et al. applies a positive bias to source instead of the drain, as claimed. Nevertheless, it is considered obvious to one of ordinary skill in the art, at the time the invention was made, to apply the positive voltage to the drain, as opposed to the source, since the difference is only the matter of arbitrary direction of erase chosen upon the design process (col. 7, lines 30 – 57).

Regarding **claims 6 and 7**, the examiner takes an Official Notice that the ranges of voltages chosen for the process of erasing the transistor is only a matter of design choices and hence, considered common sense since applicants have not disclosed that the specific voltage ranges solves any stated problem or is for any particular purposes.

### *Allowable Subject Matter*

6. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Conclusion*

Art Unit: 2818


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. When responding to the office action, Applicant(s) are advised to provide the examiner with the page and line numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02(b)).

10. Any inquiry concerning this communication on earlier communications from the examiner should be directed to Ly Pham, whose telephone number is 703-305-4862. The examiner can normally be reached on Monday – Friday from 8:30am to 5:00pm, alternate Friday off. The examiner's supervisor, David Nelms, can be reached at 703-308-4910. The fax number for the organization where this application or proceeding is assigned is 703-308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Ly Pham 

November 27, 2002

  
HOAI HO  
PRIMARY EXAMINER